

Plaice

Plaice (*Pleuronectus platessa*) is one of the species of *Pleuronectidae* that can be found in both the North Sea and the Wadden Sea. Plaice primarily feed on *Annelida* but are also known to feed on *Bivalves* and *Echinodermata* (Rijnsdorp & Vingerhoed, 2001). Of the *Annelida*, Plaice primarily feed on *Pectinaria*, *Nereis*, and *Magelona*

papillicornis (Rijnsdorp & Vingerhoed, 2001). As Plaice is an ambush hunter, it is considered to be non-migratory by nature, though they sometimes migrate to the Wadden Sea to spawn (ICES Journal of Marine Sciences, n.d.; Nash & Geffen, 2011).



History/ Population trends

It is difficult to estimate natural mortality for many marine fish populations, especially during the transition period from larvae to juveniles, because the appropriate data are scarce (Nash & Geffen, 2011). Plaice (*Pleuronectes platessa*) is an exception since it has been studied extensively (Nash & Geffen, 2011). The study of mortality rates in juveniles is made easier because the nursery grounds are inshore and generally less than 5 m deep (Nash & Geffen, 2011). This contribution considers the factors affecting mortality rates for eggs and larvae, and for settlement and nursery ground phases (Nash & Geffen, 2011). There are problems associated with estimating mortality rates, especially for juveniles because immigration into nursery areas at the beginning of the season and emigration of larger individuals off nursery grounds in the latter part of the season confound losses due to mortality (Nash & Geffen, 2011). The shifts in mortality schedules and the causes through the early life history are investigated in relation to concepts such as 'nursery ground carrying capacity' and 'self-thinning' (Nash & Geffen, 2011). Predation in the pelagic phase is highly likely density independent and a source of inter-annual variability in survival of early life-history stages (Nash & Geffen, 2011). Predation mortality during the nursery ground phase is most likely density dependent (Nash & Geffen, 2011).

Furthermore, because Plaice is extensively researched, it is also known that changes in size have occurred in reaction to fishing (Mollet et al., 2015). Mollet et al., found three evolving life-history trait changes between the years 1900 and 2000 (2015). They are: the intercept of the maturation reaction norm decreases by 27%, the weight-specific reproductive-investment rate increases by 10%, and the weight-specific energy-acquisition rate increases by 1% (Mollet et al., 2015). This has an impact on fisheries dependent on Plaice (Mollet et al., 2015).

Miscellaneous

- Plaice are mainly found and caught in the southern parts of the North Sea and throughout the entire Wadden Sea (ICES Journal of Marine Sciences, n.d.). The Wadden Sea is also the primary nursery-ground for Plaice (ICES Journal of Marine Sciences, n.d.).

Diet

- Annelida (Rijnsdorp & Vingerhoed, 2001)
- Bivalves (Rijnsdorp & Vingerhoed, 2001)
- Other detritivores (Rijnsdorp & Vingerhoed, 2001)
- Starfish (Rijnsdorp & Vingerhoed, 2001)

Sources

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- Mollet, F., Dieckmann, U., & Rijnsdorp, A. (2015). Reconstructing the effects of fishing on life-history evolution in North Sea plaice *Pleuronectes platessa*. *Marine Ecology Progress Series*, 542, 195–208. <https://doi.org/10.3354/meps11441>
- Nash, R. D., & Geffen, A. J. (2011). Mortality through the early life history of fish: What can we learn from European plaice (*Pleuronectes platessa* L.)? *Journal of Marine Systems*, 93, 58–68. <https://doi.org/10.1016/j.jmarsys.2011.09.009>
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